

## ABSTRACT OF THE DISCLOSURE

An ablation catheter apparatus with a monopole antenna that is arranged to provide a relatively uniform electric field and a method for using such an ablation catheter apparatus are disclosed. According to one aspect of the present invention, an ablation catheter includes an elongated flexible tubular member that is adapted to be inserted into the body of a patient, and a transmission line that is disposed within the tubular member. The transmission line has a distal end and a proximal end which is arranged to be connected to an electromagnetic energy source. The catheter also includes a monopole antenna with tip section and a body section that includes a distal end and a proximal end. The tip section and the body section are arranged to produce a relatively uniform electric field around the monopole antenna which is sufficiently strong to cause tissue ablation. The proximal end of the body section of the monopole antenna is arranged to be electrically coupled to the transmission line.

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